Nobel Biocare™

creos™

YOU ARE WHAT WE STAND FOR.

nobelbiocare.com/en-us

Nobel Biocare™

Upwards

cre

Enhancing the experience

easy-to-use

advanced

and on the rise

Innovation is our passion **but it's your reality** THAT DRIVES US.

creos™ is the Nobel Biocare regenerative product portfolio, built to meet your everyday needs. Join us and experience the carefully designed, easy-to-use, effective solutions.

We aim to be the trusted regenerative partner for you and your patients, because you are what we stand for.

Sideways to your side

effective

creos™ xenoprotect

A membrane with outstanding handling that facilitates bone gain

Outstanding handling[1,2]

- Does not stick to instruments
- Repositioning in-situ possible
- Low surface expansion when hydrated
- Both sides can face the defect

High mechanical strength[2,3,4]

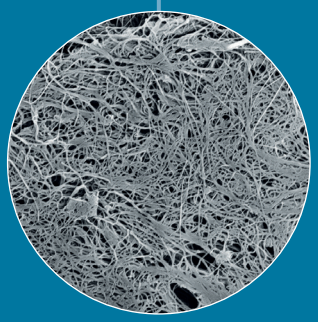
- Excellent suture retention
- Highly tear-resistant

Enduring resistance to degradation in vivo*[3]

- Manufacturing process intended to preserve the natural structure of the collagen fiber network, to confer a high resistance to degradation

Facilitates bone gain[2,3,5,6,7,8]

- Excellent tissue compatibility[3]
- Good clinical results[5]



"What I like is that the handling is very easy. The mechanical stability is very high and when it is rehydrated it adapts very well to the underlying bone"

Dr. Bastian Wessing, Germany

Porcine

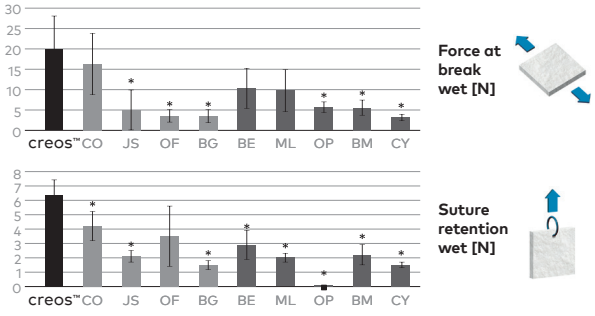
* As shown in an animal model (rat, subcutaneous)

High mechanical strength

In an in vitro study aiming to compare the mechanical strength of commonly used native non-chemically cross-linked and chemically cross-linked collagen membranes[4].

- creos™ xenoprotect demonstrated the highest force at break, wet (21.2 N).
- creos™ xenoprotect had the highest suture retention, wet (6.1 N).

Comparison of commercial membrane in a hydrated state



Non cross-linked collagen membranes (NXL) – CX: creos™ xenoprotect [Nobel Biocare]; CO: Copios [Zimmer]; JS: Jason [botiss]; OF: Osseoguard Flex [3i]; BG: Bio-Gide [Geistlich]

Cross-linked collagen membranes (XL) – BE: BioMend Extend [Zimmer]; ML: Mem-Lok [BioHorizons]; OP: OssixPlus [Datum Dental]; BM: BioMend [Zimmer]; CY: Cytoplast RTM [Osteogenics]

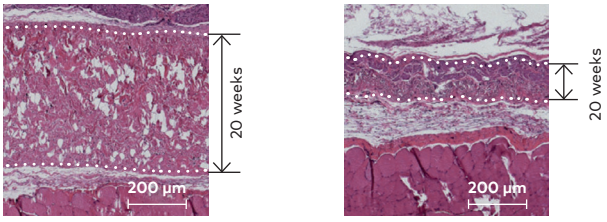
*Statistically significant

Enduring resistance to degradation in vivo without chemical cross linking[3]

Manufacturing process intended to preserve the natural structure of the collagen fiber network, to confer a high resistance to degradation.[3]

In an animal model, after 20 weeks, the thickness of xenoprotect decreased only slightly, whereas the reference membrane showed a thickness loss of around 50%, confirming the higher stability of xenoprotect against biodegradation in vivo.[3]

Representative histological images at 20 weeks implantation in a rat model.

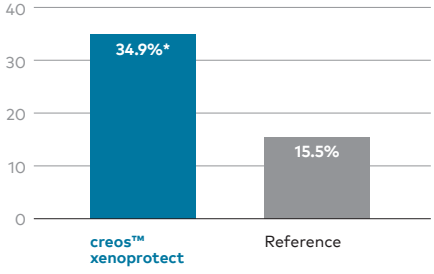


creos™ xenoprotect

Reference membrane

Facilitates new bone formation[2,3,5,6,7,8]

New bone formation (%)



In a comparative in vivo study, creos™ xenoprotect demonstrated significantly higher new bone formation in the central portion of the defect.

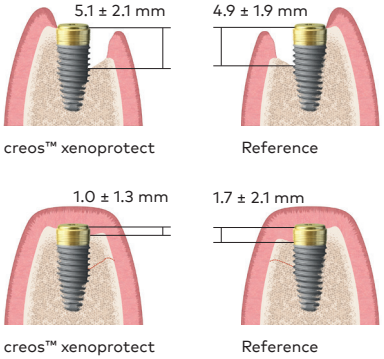
This increase in bone formation was associated with significantly increased expression of the growth factor *Bmp2*, which has a strong role in osteogenesis.[7]

*Statistically significant

In a randomized controlled clinical trial, 24 patients were treated with creos™ xenoprotect and 25 with a reference membrane. In the creos™ xenoprotect group, the defect height reduced at 6-month re-entry by 81%.

In the reference membrane group, the defect height reduced at 6-month re-entry by 62%.[5]

Schematic showing the defect height prior to treatment and 6 months after GBR



Scan the code for clinical resources.

creos™ xenogain

3 methods of application to meet all your bone grafting needs

Regenerating bone for 15 years

Three different methods of application:

Vial

Bowl

Syringe

Similar to human bone

- Chemical composition: Ca/P ratio
- Interconnected macropores[9,10]

Easy handling

- Homogenous particle size[9]
- Hydrophilic for fast rehydration[11,12]

Solid foundation for dental implant treatment

- Osteoconductive properties[10]
- Long-term volume stability[13]
- Uneventful healing[8,11,12,13,14]

"I appreciated its handling properties and I see its high hydrophilicity as a biological advantage in sinus grafting and peri-implant defect regeneration"

Dr. Werner Zechner, Austria

Bovine

creos™ xenogain collagen

Block

Syringe

Purified cancellous bovine bone mineral granules and 10% porcine collagen in block form and syringe. The collagen helps to hold creos™ xenogain collagen in the desired place. Especially recommended for extraction socket management.

Bovine

Porcine

Scaffold for successful regeneration

Preserved natural features of bone through optimized manufacturing process.[10]

Chemical composition

With a calcium phosphate ratio that reflects the composition in human bone and a structure with low crystallinity. The body accepts creos™ xenogain as a suitable framework for bone formation.[9]

Particle size

- Homogenous particle size[9]
- Maintains space for bone regeneration[12]

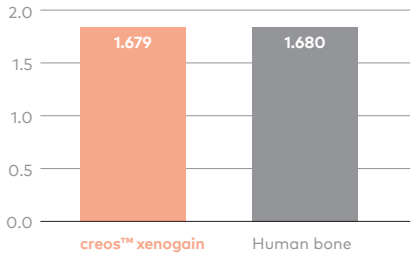
Preserved Nanostructure

Nanostructure preserved thanks to treatment at comparatively low temperature (600°C) and no sintering.[10]

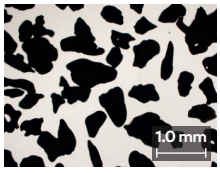
Macro and micro-structure

Interconnected macropores allow cells to invade bone grafts and micropores contribute to capillary liquid uptake (hydrophilicity).[15,16]

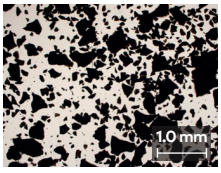
Calcium Phosphate Ratio



Photographic micrograph of creos™ xenogain and reference product showing the particle size distribution (magnification 20x)



creos™ xenogain
(0.2 - 1.0 mm)

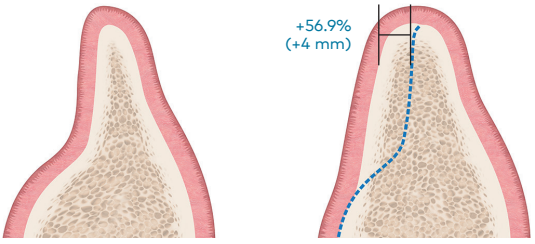


Reference product
(0.25 – 1.0 mm)

Solid foundation for implant placement

The graft integrates with the newly formed bone, building a basis for successful implant placement.[12]

Schematic showing the defect and bone size prior to and after GBR



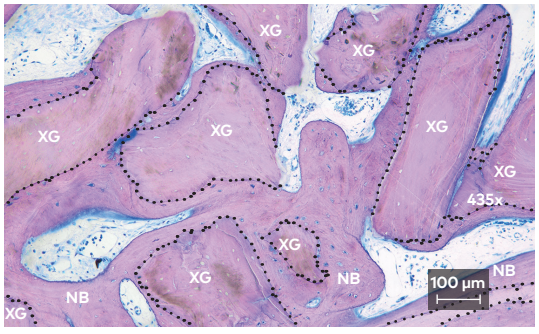
Initial situation before GBR

8 months post-surgery

In a multicenter clinical study involving 46 patients, bone increase after 8 months was 4.0 mm (+56.9 % gain) and 4.7 mm (51.0 % gain) at 1 and 3 mm from the top of the crest, respectively.[8]

GBR led to robust bone regeneration during the 8 months of healing, enabling successful placement of 91 implants in 43 patients, with an average insertion torque of 37.8 ± 5.1 Ncm.[8]

Histological cross section of the cellular components; NB – new bone, XG – graft, scale bar shown in the bottom right corner, red dashed line: bone to graft particle contact.



Histological assessment of the trephine cores showed 37.3 % of new bone, 39.1 % of graft material, and 23.6 % of soft tissue (n = 6 cores, 3 patients).[8]

Scan the code for clinical resources.

creos™ allo.gain & allo.protect

A wide range of allograft materials, because all your cases are different

Broad allograft portfolio for different clinical indications*

- Mineralized and demineralized
- Cortical and cancellous
- Available in a bowl for an easy handling

allo.gain demineralized bone matrix (dbm) putty

- 100% pure demineralized allograft with no filler or inert carrier
- Syringe type dispenser for easy application

allo.protect pericardium membrane

- Durable protection

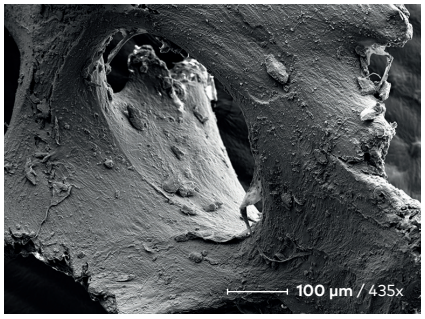
Ensuring safety and quality levels

- A proprietary patented process of tissue cleaning and sterilization
- The tissue bank follows strict processing procedures in order to ensure safe tissue grafts of the highest quality for transplantation

*See Instructions For Use for full prescribing information, including indications, contraindications, warnings and precautions

Allograft

creos™ allo.gain bone particulate: a wide range of options



Mineralized cancellous bone

Mineralized cortical bone

Offers a high density bone with particle size range from 0.125 mm to 1 mm and available volume of 0.25 cc to 2.0 cc.

Mineralized/demineralized cortical bone

Blend of 70% mineralized and 30% demineralized cortical bone.

Mineralized corticocancellous bone

Blend of cortical and cancellous bone produced from sections of the ilium.

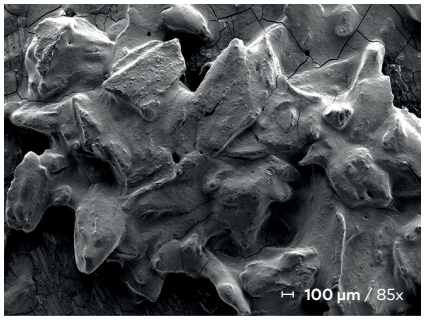
Mineralized cancellous bone

A porous structured bone with particle size range from 0.25 mm to 1 mm and available volume of 0.25 cc to 2.0 cc.

Demineralized cortical bone

Demineralized high density bone with particle size range from 0.125 mm to 1 mm and available volume of 0.25 cc to 2.0 cc.

creos™ allo.gain demineralized bone matrix (dbm) putty



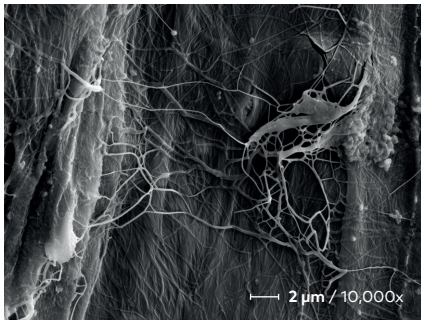
100% pure allograft

The creos™ allo.gain dbm putty is 100% pure demineralized allograft with no filler or inert carrier.

Available in Three volumes

The creos™ allo.gain dbm putty is available in three different volumes: 0.5 cc, 1.0 cc and 2.5 cc. This means that the required amount can be used with minimal excess material.

creos™ allo.protect pericardium membrane



Three sizes

creos™ allo.protect is available in three different sizes: 1.0 x 1.0 cm, 1.5 x 2.0 cm and 2.0 x 3.0 cm.

Easy to handle

Easy to tack and suture with high tear resistance. Rapid hydration and easy manipulation. Maintains shape and size once placed.

Durable protection

Strong and stable due to the pore structuwre of native pericardium.

Biocompatible and tissue friendly

Preservation of the native pericardium collagen matrix and its mechanical properties.

Scan the code for clinical resources.

creos™ syntoprotect

Your easy choice of dense PTFE membranes to expand grafting options

syntoprotect PTFE membrane

Purposely leave the membrane exposed

Preservation of the soft tissue architecture and keratinized mucosa

Non-resorbable

Will not resorb prematurely - you dictate healing time

100% dense (non-expanded) PTFE

Impervious to bacteria - pore size less than 0.3 µm

Soft tissue attaches, but doesn't grow through the membrane

Exposed membrane allows for non-surgical removal; no anesthesia required

Synthetic

syntoprotect Ti-reinforced PTFE membrane

Delicate, lightweight framework

Easy to trim and compliant with the overlying soft tissues

Less is more

Less titanium bulk allows for greater versatility in shaping and placement, providing additional stability in large, non-spacemaking osseous defects

Handling options

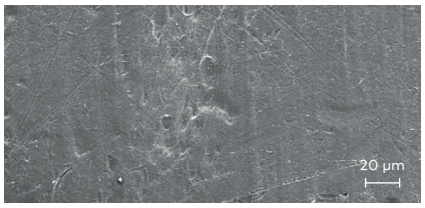
Broad portfolio with 13 shapes in 2 thicknesses

Traditional frame design

Incorporating delicate and strategically-placed titanium "struts" with more than 25 years of clinical history and successful use in GRB

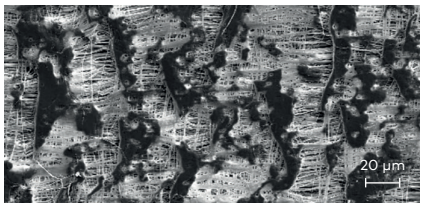
Unique properties of dense PTFE membranes

Dense PTFE



SEM image courtesy of Schüpbach Ltd, Switzerland.

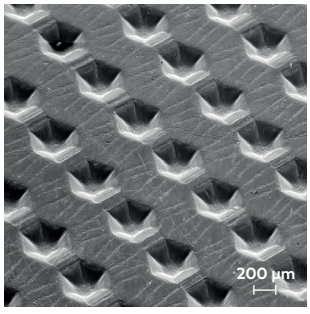
Expanded PTFE



SEM image courtesy of Schüpbach Ltd, Switzerland.

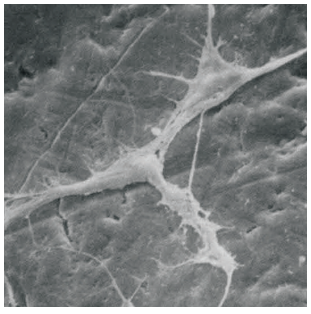
Dense PTFE was designed to withstand exposure in the oral environment, which represents an improvement to earlier versions of expanded PTFE in applications such as socket preservation where deliberate membrane exposure offers several advantages.

Designed to aid in membrane stabilization



SEM image courtesy of Schüpbach Ltd, Switzerland.

Hexagonal surface dimples provide a textured surface that increases the area available for cellular attachment without increasing porosity. The textured surface is designed to help stabilize the membrane and the soft tissue flap.

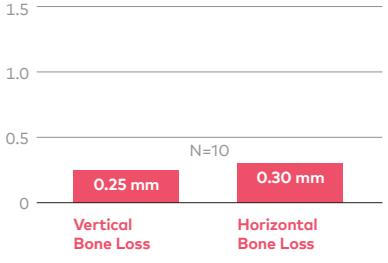


Although PTFE is inherently a non-stick material, cells attach to the outside of the dense PTFE membranes. Cellular adhesion is important to create a seal around the edges of exposed dense PTFE membranes or to support primary closure in larger graft applications.

Clinical evidence

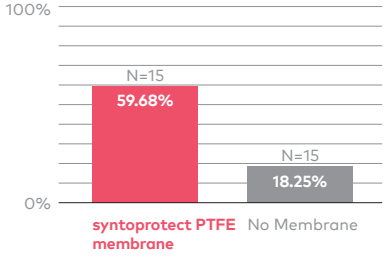
Efficacy

Bone loss 1-year post-extraction[19]



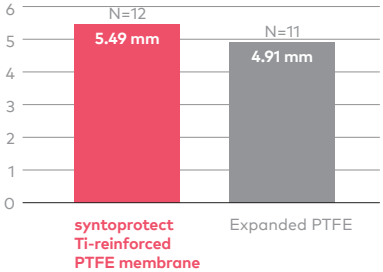
Vertical bone loss measured at crest. Horizontal measured from stent to buccal plate.

Soft tissue regeneration 90 days post-extraction[20]



Measured as reduction of the occlusal distance between buccal and lingual gingival margins.

Vertical ridge augmentation around implants[21]



Mean vertical bone regeneration.

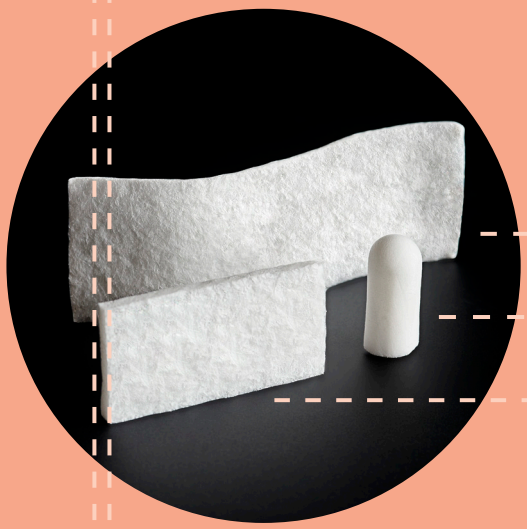
Predictability

In two separate studies treating a total of 696 extraction sites using dense PTFE membranes in an exposed technique, there were no reported infections.[17,18]

Scan the code for clinical resources.

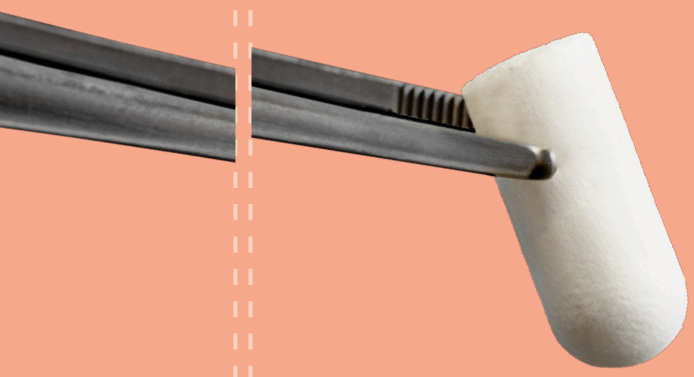
creos™ absorbable collagen dental wound dressings

Complementing your regenerative set



Three different shapes

- creos™ xenotape
- creos™ xenoplug
- creos™ xenocote



Soft, white, pliable, non-friable, absorbent sponges made from collagen obtained from bovine deep flexor (Achilles) tendons.

Indicated for application to moist or bleeding clean oral wounds created during dental surgery, to control bleeding and protect the surface of the wound from further injury.

Can be used during surgical procedures prior to wound closure or left in-situ.

Bovine

Depending on the chosen wound dressings product, one or more of the following applications are suitable*:

- Minor oral wounds
- Closure of grafted sites
- Repair of Schneiderian membrane
- Palatal donor sites
- Mucosal flaps
- Extraction sites
- Biopsy sites

*See Instructions For Use for full prescribing information, including indications, contraindications, warnings and precautions.

Arrive ready to use and are easy to handle.

Scan the code for more resources.

Products

creos™ xenoprotect

Porcine collagen membrane

Size	Article No.
15x20 mm	N1520
25x30 mm	N2530
30x40 mm	N3040

creos™ xenogain

Deproteinized bovine bone matrix

Weight	Granule size	Volume	Vial	Bowl	Syringe
0.25 g	Small (0.2-1.0 mm)	0.36 cc	N1110	N1110-B	N1210
	Large (1.0- 2.0 mm)	0.54 cc	N1111	N1111-B	N1211
0.50 g	Small (0.2-1.0 mm)	0.82 cc	N1120	N1120-B	N1220
	Large (1.0- 2.0 mm)	1.27 cc	N1121	N1121-B	N1221
1.00 g	Small (0.2-1.0 mm)	1.71 cc	N1130	N1130-B	
	Large (1.0- 2.0 mm)	2.69 cc	N1131	N1131-B	
2.00 g	Small (0.2-1.0 mm)	3.64 cc	N1140	N1140-B	
	Large (1.0- 2.0 mm)	5.74 cc	N1141	N1141-B	

creos™ xenogain collagen

creos™ xenogain + 10% porcine collagen type I

	Size		Article No.
Block	100 mg	6 x 6 x 6 mm	N1320
	250 mg	7 x 8 x 9 mm	N1330
	500 mg	9 x 10 x 11 mm	N1340
Syringe	250 mg	4.6 x 40 mm	N1410
	500 mg	5.6 x 45 mm	N1420

creos™ allo.gain

bone particulate

Vial	min/demin cortical	mineralized corticocancellous		mineralized cancellous		mineralized cortical			demineralized cortical	
	Medium 0.25-1 mm	Medium 0.25-1 mm	Large 0.5-1 mm	Medium 0.25-1 mm	Large 0.5-1 mm	Small 0.125-0.85 mm	Medium 0.25-1 mm	Large 0.5-1 mm	Small 0.125-0.85 mm	Large 0.5-1 mm
0.25 cc		N4510	N4511	N4210	N4211	N4110	N4111	N4112	N4310	N4311
0.50 cc	N4410	N4520	N4521	N4220	N4221	N4120	N4121	N4122	N4320	N4321
1.00 cc	N4420	N4530	N4531	N4230	N4231	N4130	N4131	N4132	N4330	N4331
2.00 cc	N4430	N4540	N4541	N4240	N4241	N4140	N4141	N4142	N4340	N4341

Bowl	min/demin cortical	mineralized corticocancellous	mineralized cancellous*	mineralized cortical*
	Medium 0.25-1 mm	Medium 0.25-1 mm	Medium 0.25-1 mm	Medium 0.25-1 mm
0.25 cc		N4510-B	N4210-B	N4111-B
0.50 cc	N4410-B	N4520-B	N4220-B	N4121-B
1.00 cc	N4420-B	N4530-B	N4230-B	N4131-B
2.00 cc	N4430-B	N4540-B	N4240-B	N4141-B

*Available Q2/2022

creos™ allo.gain

dbm putty

Size	Article No.
0.50 cc	N6110
1.00 cc	N6120
2.50 cc	N6130

creos™ allo.protect

pericardium membrane

Size	Article No.
10 x 10 mm	N7110
15 x 20 mm	N7120
20 x 30 mm	N7140

creos™ wound dressings

Product type	Configuration/size		Thickness	Article No.
creos™ xenotape	1 in x 3 in	(2.5 cm x 7.5 cm)	0.3-0.8 mm	WD62200
creos™ xenoplug	0.375 in x 0.75 in	(1 cm x 2 cm)		WD62202
creos™ xenocote	0.75 in x 1.5 in	(2 cm x 4 cm)	2-4 mm	WD62201

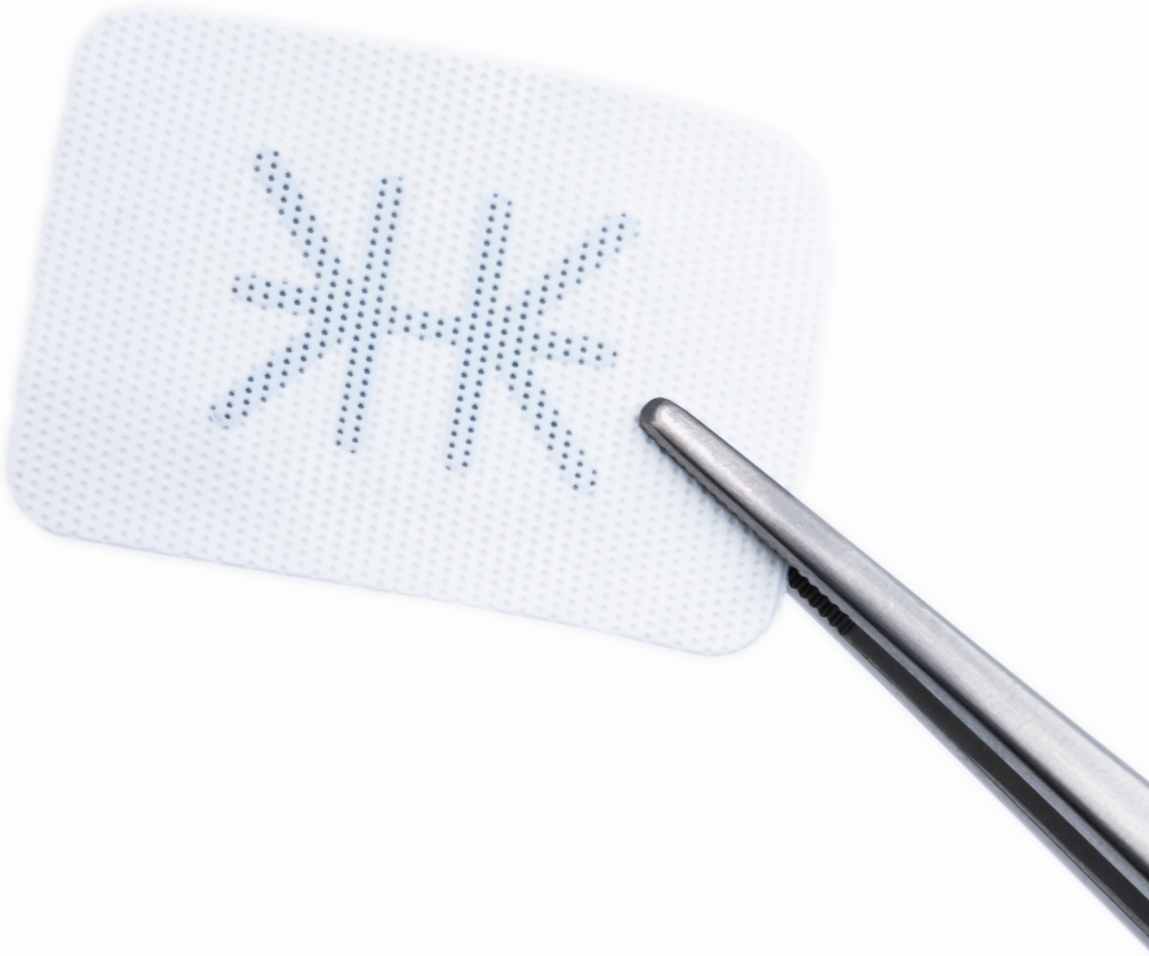
(10 per dispenser)

creos™ syntoprotect PTFE membrane

Shape	Picture	Size	Thickness	Article No.	Units / box	Description
Large		25 x 30 mm	200 µm	N162530-1	1	Designed specifically for extraction site grafting and augmentation procedures where exposure to the oral cavity is common
			200 µm	N162530-4	4	
Small		12 x 24 mm	200 µm	N161224-1	1	
			200 µm	N161224-10	10	

creos™ syntoprotect Ti-reinforced PTFE membrane

Shape	Picture	Size	Thickness	Article No.	Units / box	Description
No. 1		12 x 24 mm	150 µm	N1615TI-A01-1	1	Designed for narrow single-tooth extraction sites, especially where one bony wall is missing
			250 µm	N1625TI-A01-1	1	
No. 2		14 x 24 mm	150 µm	N1615TI-A02-1	1	Designed for single-tooth extraction sites, especially where one or more bony walls are missing
			250 µm	N1625TI-A02-1	1	
No. 3		17 x 25 mm	150 µm	N1615TI-A03-1	1	Designed for large buccal defects
			250 µm	N1625TI-A03-1	1	
No. 4		20 x 25 mm	150 µm	N1615TI-A04-1	1	Designed for large extraction sites and limited ridge augmentation
			250 µm	N1625TI-A04-1	1	
No. 5		36 x 25 mm	150 µm	N1615TI-A05-1	1	Designed for large extraction sites and limited ridge augmentation in the anterior maxilla
			250 µm	N1625TI-A05-1	1	
No. 6		25 x 30 mm	150 µm	N1615TI-A06-1	1	Designed for large bony defects, including ridge augmentation
			250 µm	N1625TI-A06-1	1	
No. 7		30 x 41 mm	150 µm	N1615TI-A07-1	1	Designed for large bony defects, including ridge augmentation in the anterior maxilla
			250 µm	N1625TI-A07-1	1	
No. 8		30 x 40 mm	150 µm	N1615TI-A08-1	1	Designed for very large bony defects, including ridge augmentation
			250 µm	N1625TI-A08-1	1	
No. 9		30 x 40 mm	150 µm	N1615TI-A09-1	1	Designed for very large bony defects, including ridge augmentation
			250 µm	N1625TI-A09-1	1	
No. 10		24 x 38 mm	150 µm	N1615TI-A10-1	1	Designed for large extraction sites, including ridge augmentation
			250 µm	N1625TI-A10-1	1	
No. 11		38 x 38 mm	150 µm	N1615TI-A11-1	1	Designed for large bony defects, including ridge augmentation
			250 µm	N1625TI-A11-1	1	
No. 12		38 x 38 mm	150 µm	N1615TI-A12-1	1	Designed for large bony defects, including distal extension of the posterior ridge
			250 µm	N1625TI-A12-1	1	
No. 13		40 x 50 mm	150 µm	N1615TI-A13-1	1	Designed for the largest bony defects, including ridge augmentation
			250 µm	N1625TI-A13-1	1	



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